

FIG. 1 PRIOR ART

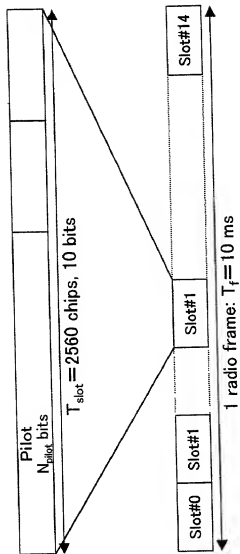


FIG. 2 PRIOR ART

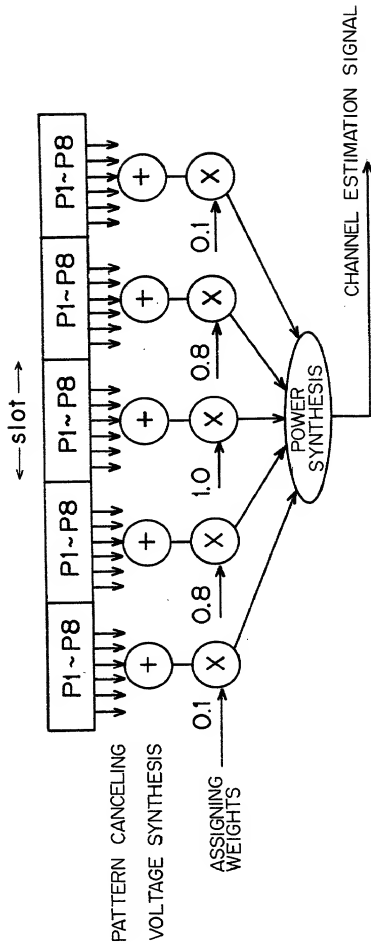


FIG. 3 PRIOR ART

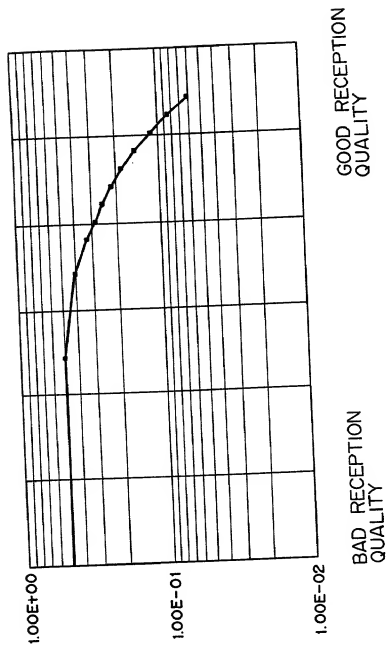


FIG. 4 PRIOR ART

T01E20*19681660

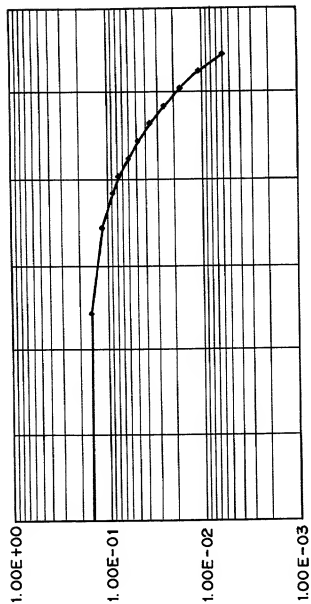


FIG. 5 PRIOR ART

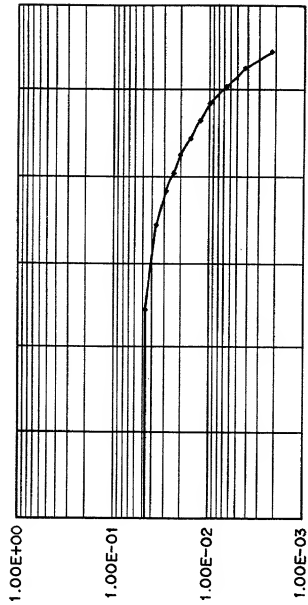


FIG. 6 PRIOR ART

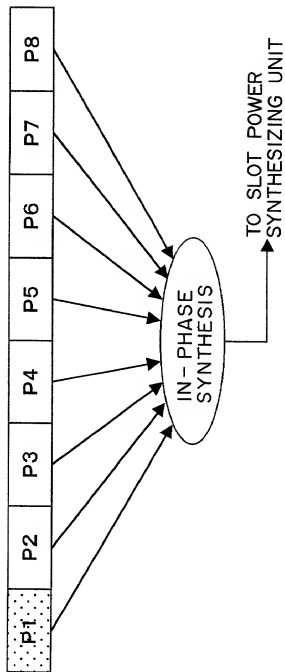


FIG. 7

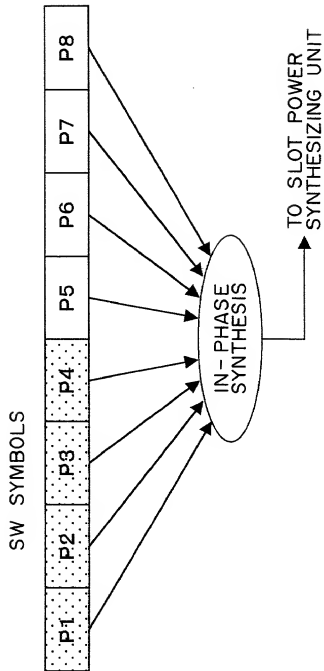


FIG. 8

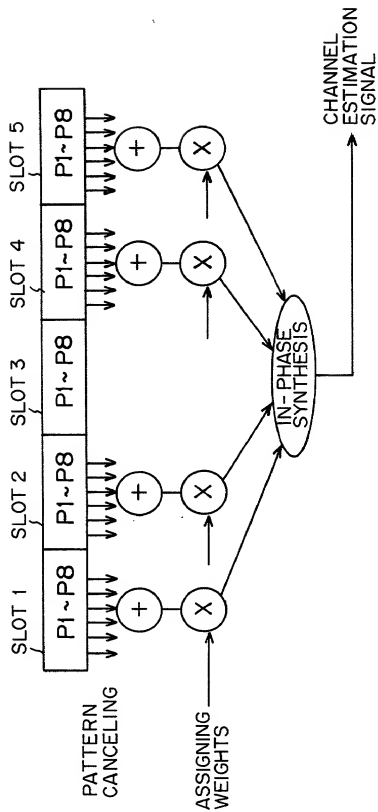


FIG. 9

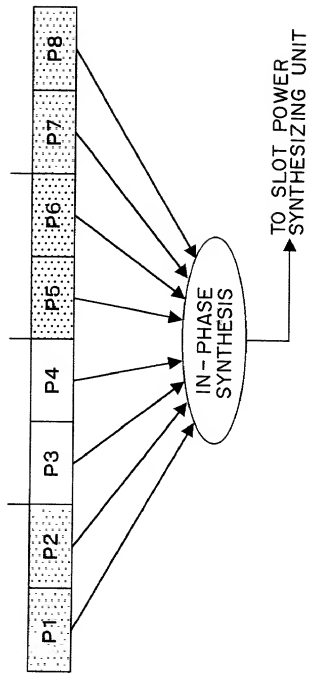


FIG. 10

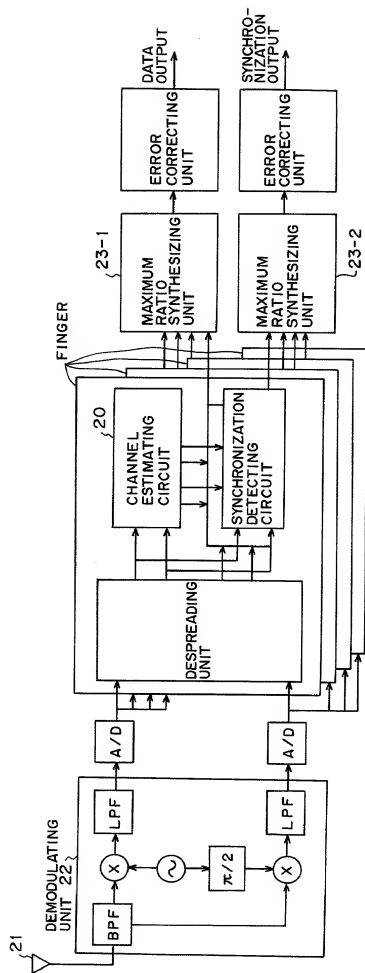


FIG. 11

PILOT PATTERNS
NUMBER OF SYMBOLS :
VARIES DEPENDING
ON SLOT

- 1slot 1,1,1...1,1,1
- 2slot 1,1,1...1,1,1
- 3slot 1,-1,1...1,-1,1
- 4slot 1,1,-1...1,1,-1
- 5slot 1,1,-1...1,1,1
- 6slot 1,1,-1...1,1,1
- 7slot 1,-1,1...1,-1,1
- 8slot 1,1,-1...1,-1,1
- 9slot 1,1,1...1,-1,1
- 10slot 1,1,1...1,1,1
- 11slot 1,1,1...1,1,-1
- 12slot 1,-1,1...1,-1,1
- 13slot 1,-1,1...1,-1,1
- 14slot 1,-1,1...1,-1,-1
- 15slot 1,-1,1...1,-1,-1

1 SYMBOL DELAY

1 SLOT DELAY

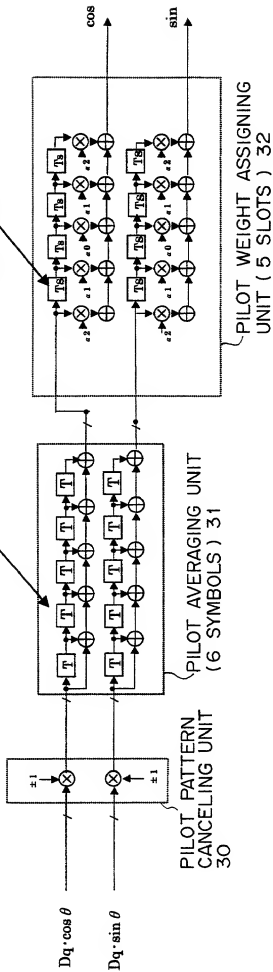


FIG. 12

CH ESTIMATION VALUE

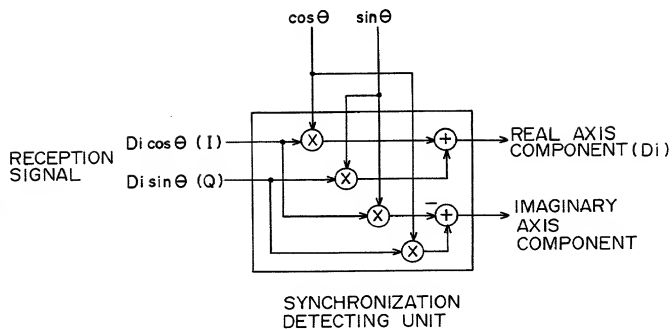


FIG. 13

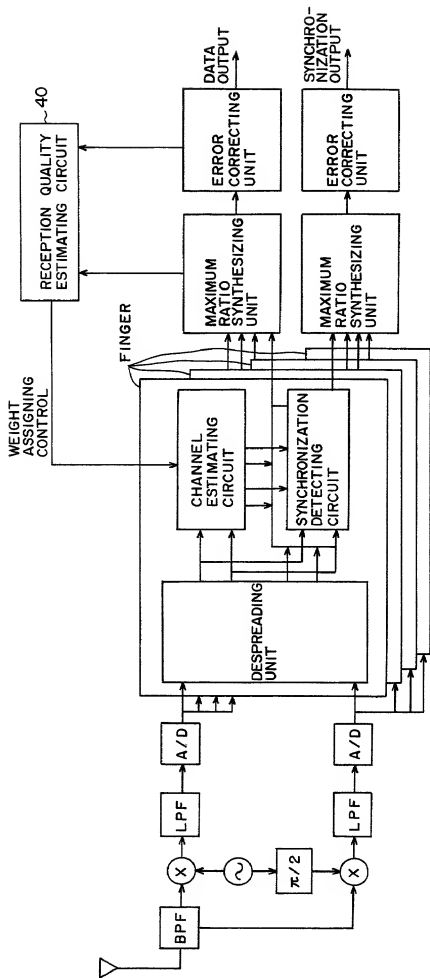


FIG. 14

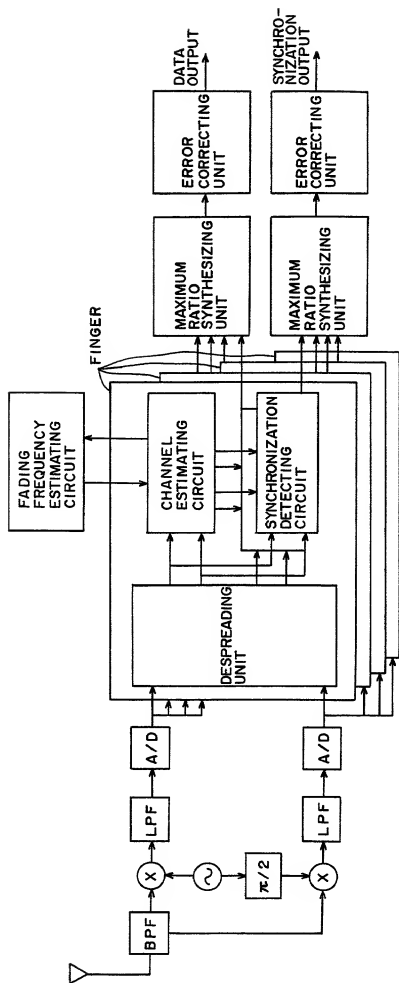


FIG. 15

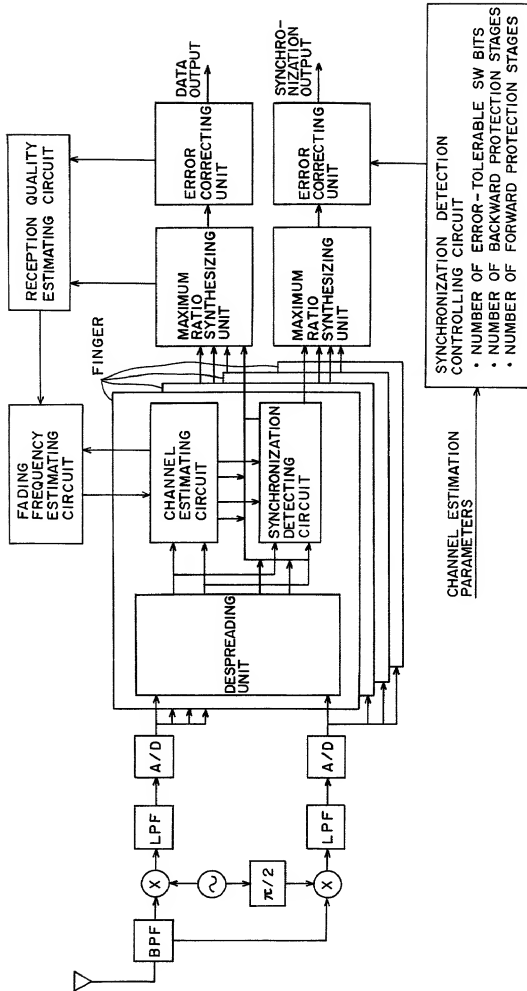
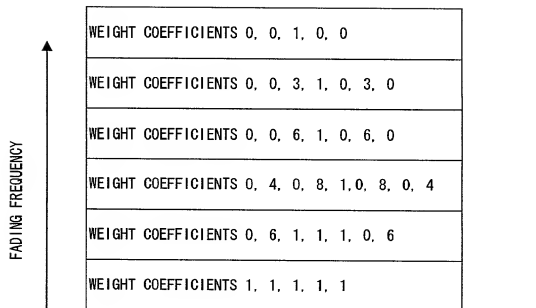
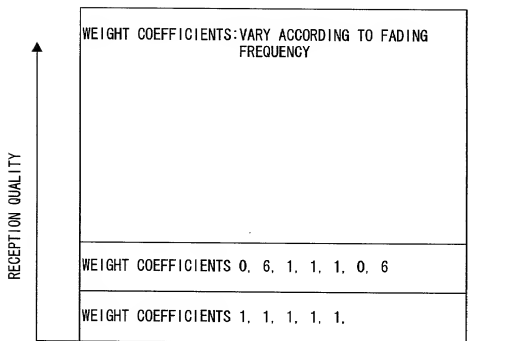


FIG. 16



F I G. 1 7

091994 072401
101520 1568160



F I G. 1 8

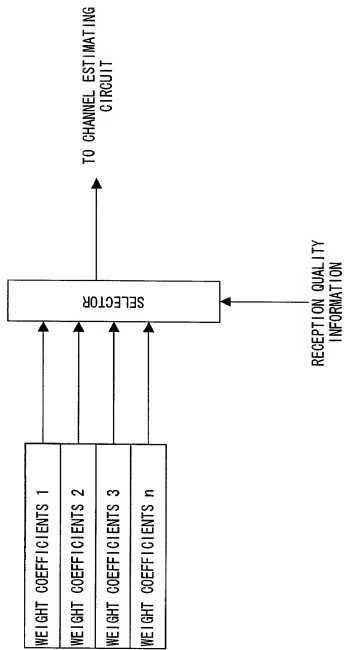


FIG. 19

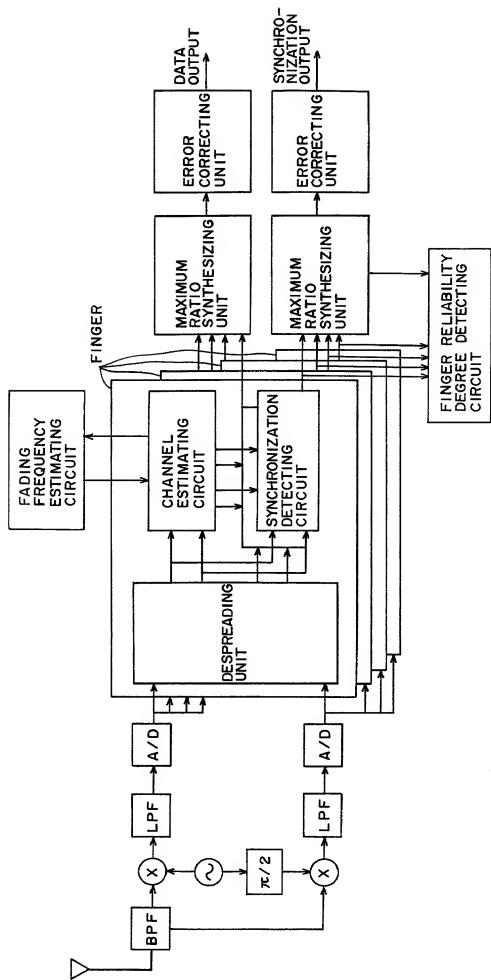


FIG. 20